

Spring Hill Park



MASTER PLAN AMENDMENT



PHR+A

Approved December 10, 2003

Spring Hill Park

ACKNOWLEDGEMENTS

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McLean Hunt Estates	McLean Youth Soccer
McLean Hamlet	McLean Youth Inc.
Condon Manor	Dranesville District Athletic Council
Spring Meadows	McLean Babe Ruth

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I. Introduction

A. Purpose and Plan Description

The process of revising a Master Plan is a means to update the plan by removing un-built, undesired elements and adding other new elements that are more current with today's community. When approved, the document will serve as a guide for all future planning on the site and should be referred to before any planning and design projects are initiated. The purpose of this Master Plan revision is to update the current master plan that was approved in July 1984 and revised in August 1988 (See existing Master Plan, page 9).

To initiate the process, the Park Authority conducted a series of meetings from which they obtained valuable information from the park's stakeholders that was used to prepare final recommendations. The Spring Hill Park Advisory group was created to participate in the Master Plan revision process. The group is comprised of representatives from the surrounding residential subdivisions, homeowners associations, and athletic associations. Several meetings have occurred with the Spring Hill Advisory Group and the McLean Citizens Association throughout the Master Plan revision process to review proposed alternatives including those prepared by various groups. Key issues have generally revolved around the type and intensity of additional facilities, preservation of natural resources, parking, traffic and impacts to adjacent residences.

B. Park Description

Spring Hill Park is located at 1239 Spring Hill Road, at the intersection of Spring Hill Road (Route 684) and Lewinsville Road in McLean, Virginia. (See Location and Zoning Map, page 5) The site is comprised of two parcels, 1C and 1D, totaling approximately 46.07 acres in size.

Parcel 1C, approximately 21.68 acres, is owned by the Park Authority and contains all of the park's existing facilities with the exception of two soccer fields located on Parcel 1D (For a list of these facilities, see III. Existing Facilities, page 8). Parcel 1C is bound by Spring Hill Road to the west, Lewinsville Road to the south, and Artnauman Court to the east. Spring Hill Elementary School is located directly south of the park, across Lewinsville Road.

Parcel 1D, approximately 24.39 acres, is owned by the School Board and leased to the Park Authority. The parcel is generally undeveloped with the exception of



two soccer fields in the western portion of the parcel. Apart from a portion of the southern boundary that is contiguous with parcel 1C, the parcel is mostly surrounded by existing single-family residential lots. The upper reach of the Bullneck Run is located in the northern portion of this parcel. In the extreme southern portion of the parcel, there are several construction trailers that were used by the School Board for their house construction program. Houses on Artnauman Court were constructed under the program.

The major components of the park are a Community Recreation Center (RECenter), athletic fields, and open space for other outdoor activities (See Existing Conditions Plan, page 6). The RECenter provides an indoor pool, a fitness center, courts, classrooms and daycare facilities.

C. Park History

In 1970, a 60-acre parcel of land was sold to the Fairfax County School Board by Thomas G. Elgin. The School Board, in 1984, deeded approximately 23.70 acres to the Park Authority. In 1988, the Park Authority leased an additional 29.6 acres from the School Board. The School Board retained rights to five of the 29.6 acres for their own purposes. In 1970, when the land was sold to the School Board, a house, outbuildings and farm buildings were located within the five-acre parcel.

The Elgin family ownership of the parcel dates to 1849 when Charles F. Elgin purchased 121 acres for a farm from Nancy Palmer, a widow. The land came in two parts of 100 acres and 21 acres. The parcels were conveyed to Palmer and her husband in 1824, "being part of a larger Estate" owned by Hamilton Thrift. Prior to the Thrift ownership, Gerrard Alexander owned this tract of land in 1760 (1760 Map of Fairfax County: Beth Mitchell). Charles F. Elgin purchased an additional 21-acre parcel from William Swink in 1849 and a 13-acre parcel from

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LOCATION AND ZONING MAP

Prepared For:
FAIRFAX COUNTY PARK AUTHORITY



SPRING HILL PARK
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

Prepared By:
P.H.R.A.
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Spring Hill Park





Prepared For:
FAIRFAX COUNTY PARK AUTHORITY

SPRING HILL PARK

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

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George W. Gunnell in 1856. With minor changes, the Gunnell land purchase completed the extent of Charles F. Elgin's farm and brought the total acreage to 155. The primary portion of Elgin's farm that Spring Hill Park falls within today is the Palmer 100-acre parcel.

II. Park Purpose and Significance

A. Park Purpose

Park purpose statements provide an umbrella for planning and decision-making. By establishing park purposes, future plans can remain flexible as legislative requirements and visitor preferences change.

The purpose of Spring Hill Park is to:

- Provide a variety of indoor active recreation, fitness and entertainment experiences, and community service functions for all age groups through the community/recreation center complex.
- Provide outdoor active recreation for Fairfax County citizens.
- Provide outdoor passive recreation and educational experiences for Fairfax County citizens.
- Preserve and protect existing natural resources.
- Preserve and protect known cultural resources.

The purpose statements are not intended to be mutually exclusive and absolute. Some of the statements may appear to be in conflict but are intended to be integrated into a common purpose. An example of this would be providing recreational opportunities and protecting the existing resources to the greatest extent possible.

B. Statement of Significance

By evidence of its past fifteen years of existence, Spring Hill Park plays an vital role within the McLean community and the Fairfax County Park system. It provides indoor and outdoor space for both active and passive recreation and community activities and services, while at the same time seeks to protect the most sensitive natural and cultural resources.

C. Visitor Experience

Visitors will be able to participate in a wide variety of indoor and outdoor and active and passive recreational and educational activities. Additionally, visitors will

learn of important natural and cultural resources through educational interpretation.

D. Park Classification: District Park

There are four major park classifications generally defined by their size and type of facilities: Neighborhood, Community, District and Countywide. Spring Hill Park is classified as a District Park. By definition, District Parks provide diversified area-wide recreation services to several sectors of the County. They are intended to support extended day use for both informal and organized activities and to protect and interpret identified natural and cultural resources. A District Park may be located anywhere in the County outside urban centers, preferably with access by secondary or arterial roads. Access should be available by the Countywide Trail System to encourage pedestrian and bicycle trips; access by public transit is also highly desirable. On-site parking is required.



District Parks are typically 50-200 acres in size. Depending on site characteristics, District Parks may combine large complexes of intensively developed facilities with extensive natural areas. The extent of development will depend on topography, environmental and culturally sensitive site features, and the amount of developable area. Lighted facilities and extended hours of operation are expected. Development is generally at a greater scale than Neighborhood and Community Parks and may include athletic field complexes or a recreation center building.

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III. Park and Recreation Need

Need for park and recreation facilities is determined through long range planning efforts. The Park Authority tracks inventory of facilities and land, looks at industry trends, surveys County citizen recreation demand, and compares itself with peer jurisdictions to determine reasonable need. This needs assessment process was most recently completed in 1993, updated in 1996, and is currently being revised. Most of the survey and analysis work is complete, confirming many of the predictions from the prior assessment.

The findings indicate a countywide shortage of most types of athletic fields with the most notable deficiency of 117 rectangular fields, projected to grow to 177 by the year 2013. An increase in the number of trails is recommended as trail use has the highest participation rate among County residents, while a need for larger picnic shelter areas for group use was also determined. Additionally, multi-purpose facilities are necessary to satisfy the youth age segments that most often use these types of facilities.

IV. Existing Facilities

Spring Hill Park offers the following recreational facilities:

- Recreation Center (RECenter) with:
 - ♦ Indoor, heated, 25 meter pool with poolside spa and wading area
 - ♦ Saunas
 - ♦ Locker rooms with showers
 - ♦ Fitness center
 - ♦ Racquetball and volleyball courts
 - ♦ Dance room
 - ♦ Multi-purpose rooms for classes and programs
 - ♦ Preschool classes and child care
 - ♦ Outside patio/picnic area
- One playground/tot lot
- One 65-foot diamond, little league/softball baseball field
- Two full size, multi-use, rectangular fields
- One multi-sport field
- Three “micro” multi-use fields.
- 283 parking spaces
- Lawn open space areas for additional outdoor activities and programs

V. Existing Master Plan

The existing Master Plan reflects the following facilities (See existing Master Plan, page 9):

- RECenter with future expansion
- One little league baseball field
- One baseball/softball field
- Two multi-use, rectangular fields
- Two tennis courts
- One multi-use court
- A playground/tot lot with a shelter
- Trails and fitness course
- Parking

VI. Existing Conditions

A. Cultural Resources

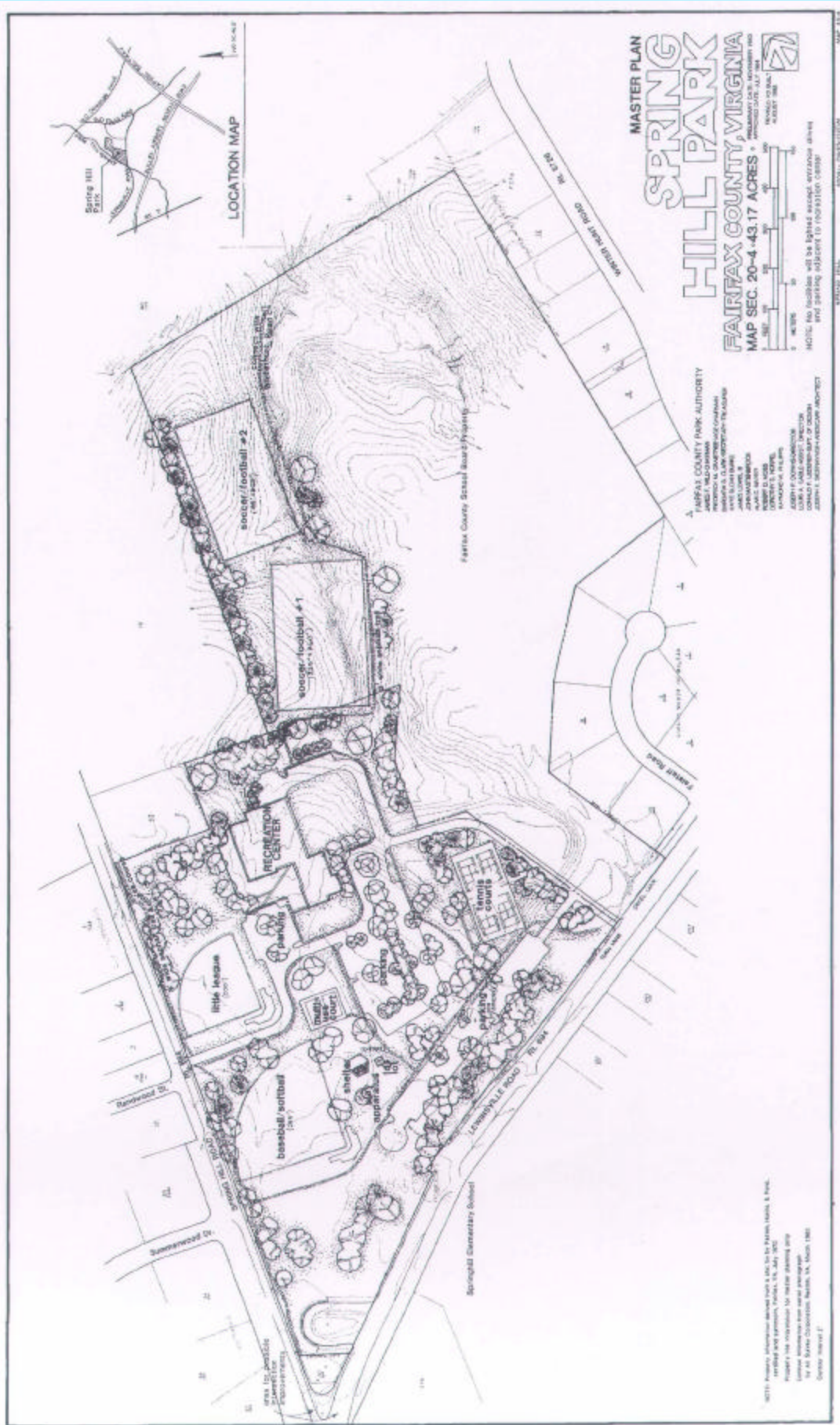
In June 2003, the Fairfax County Park Authority Cultural Resources Protection staff prepared a pedestrian archaeological survey of Spring Hill Park as part of the master plan amendment. An archaeological pedestrian survey is a low-level research tool conducted to record observable cultural resources, land formations, environmental conditions and flora. In conjunction with a pedestrian survey, historical documents, such as maps, aerial photographs, and land records, are reviewed. Additional information about the subject property was gained by preliminary field reconnaissance.

A prehistoric Native American survey was conducted and partially based on the distribution of previously located archaeological sites found within the immediate area. Topography, soil type and stream locations were considered in the development of the predictive model. Using the model, one ephemeral Native American site was found along the ridge top above Bull Neck Run, but no temporally diagnostic artifacts were identified. Thus, this site is not considered archaeologically significant. No further archaeological testing is recommended. It is unlikely that additional prehistoric Native American sites will be found.

As previously mentioned, a portion of parcel 1D of Spring Hill Park falls within the Palmer 100-acre parcel acquired by Charles F. Elgin for a farm in 1849. Historical research concludes that the Elgin farmstead occupied the southern portion of the subject property from the late nineteenth century through the mid-twentieth century.

The FCPA contracted an archaeological consultant to conduct a Phase I Archaeological Survey for Parcel 1D of Spring Hill Park in August 2003. A Phase I Archaeological Survey is necessary to locate and identify archaeological sites within an area that has

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the potential for prehistoric and/or historic resources and generate well-reasoned assessments as to which, if any, of these sites have potential to qualify as archaeological historic properties. Information collected during the Phase I Survey is generally sufficient for determining a site's ineligibility for listing in the National Register of Historic Places. If no potential archaeological historic sites are identified during the Phase I Survey, no further archaeological investigation is necessary.

Based on field reconnaissance, background research, pedestrian survey, aerial photographs, and historic maps, two potential multi-component historic and prehistoric sites and one historic site were identified. One multi-component historic and prehistoric site located in the southern portion of the property contains a concrete foundation associated with a barn that was demolished between 1970 and 1980. The site is also associated with some diagnostic artifacts suggesting that this portion of the site was occupied from the mid-nineteenth through early twentieth centuries. However, evidence of plastic, Styrofoam, and other more modern materials suggests later disturbance of the area. The cultural context of the site is disturbed from mechanical clearing of the property, and therefore, lacks integrity.

The second multi-component site, located on the western portion of the property, is representative of a general refuse scatter that is not associated with any domestic occupation. The prehistoric element contains a number of lithic artifacts, but cannot be temporally associated with any cultural period.

A third site consists of a stone and concrete-lined well that may be associated with the former barn or with an unknown historic site destroyed by construction of the existing park ball fields. The well should not be impacted from the proposed master plan amendment. The well should be capped to assure public safety. During the site construction, the well should be protected and fenced to prevent any disturbance resulting from mechanical equipment intrusion.

Due to the lack of cultural features and amount of site disturbance to the parcel, it is unlikely that the identified archaeological sites can contribute to our knowledge of history and pre-history. Therefore, the identified sites are not eligible for inclusion in the National Register of Historic Places. No further archaeological investigation is recommended for the subject parcels. Prior to site development, the Phase I Survey should be reviewed for archaeological site location to mini-

mize any impacts to the existing resources.

B. Natural Resources

1. General

To assess the natural opportunities and constraints on parcel 1D, a natural resource inventory was conducted, reviewing the wetlands and hydrology, vegetation, topography and slopes, and natural soils. Even though parcel 1C will be subject to additional recreational facilities, this parcel is generally developed and does not have significant natural resources to inventory or review except for a spring (hence Spring Hill Park) present along the northern boundary. A drainage way conveys the natural flow from this spring into an existing underground storm sewer on parcel 1D. The area immediately upstream of the storm sewer is the park's existing stormwater man-



agement facility. This facility was cleared and graded with the construction of the park in the 1980's. Over the years, this area has not been maintained. Consequently, 15 +/- years of successional vegetation is present in this area. The storm water management function of this facility is vitally important to the existing and future development of the

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park. Any natural resources recently created in the facility, such as native vegetation, should be encouraged to continue but may need to be disturbed to provide additional storm water management for site improvements.

2. Hydrology and Wetlands

The upper reach of Bullneck Run is located on parcel 1D and flows in a northerly direction. The stream is subject to erosion from run off and land altering activities. Approximately 150 linear feet of the stream, at the most northern end of the parcel, is in its natural condition. The rest has been either realigned (straightened) or piped with the previous development of the athletic fields in the 1980's. The stream is perennial and spring fed. A small amount, approximately 530 square feet, of wetlands (palustrine, forested) was found along the stream. The open portion of the stream (up to the pipe outfall), as well as the wetlands, are under the jurisdiction of the United States Army Corp of Engineers (COE). In addition, these features



are Resource Protection Area (RPA) components under the jurisdiction of Fairfax County. The RPA includes a 100-foot buffer around the stream and wetlands.

Drainage from the eastern portion of parcel 1D concentrates into an intermittent stream and feeds into the perennial stream near the northern boundary of the park. This intermittent stream is under jurisdiction of the COE, but is not an RPA component under the County's regulation (See Existing Conditions Map, page 6; Wetlands Delineation and RPA reports are available under separate cover).

3. Vegetation

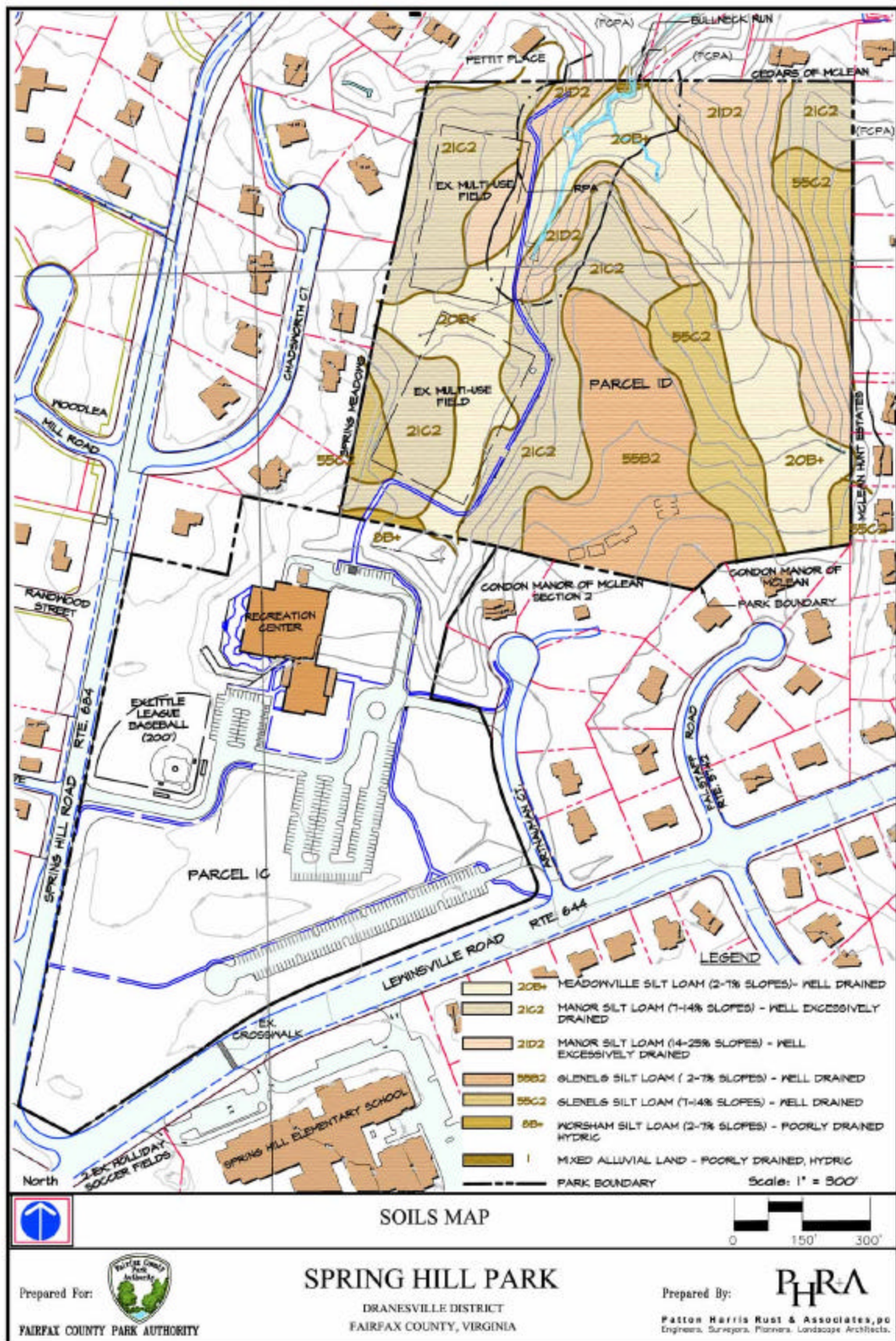
A forest stand delineation was performed to define and evaluate the type, quality, and health of the existing vegetation on parcel 1D. The forested portions of the parcel constitute approximately 14 acres. In some of the hardwood stands, the understory has been consumed by deer leading to erosion. Dominant species consist of mature yellow poplar and black locust, with subordinate black cherry, white ash and black walnut. Two "champion" trees were found within the northwestern, forested portions of the parcel: a 96-inch (estimated) tulip poplar and 35-inch black walnut. Both were found to be in very good to excellent condition and are located in areas that will be preserved along the northern boundary of the park. Pockets of open areas are present within the stands of mature trees. These open areas have various intensities of vegetation, ranging from maintained grass to successional levels of "old field" with dense lower growth. It is believed that this is the surviving evidence of an old farm on the site. Additionally, it is believed the entire parcel, with exception of the champion trees, was once cleared by logging operations (A Natural Resource Inventory is available under separate cover). Some areas are also overgrown with porcelain vines covering brambles.

4. Geology and Soils

Spring Hill Park is located in the Piedmont Upland Physiographic Province, a distinct geologic region that spans through the central portion of Fairfax County. This province is characterized by both its round and rolling hilltops and its v-shaped stream valleys with steep slopes and narrow ridges. The underlying bedrock is mostly schist, granite gneiss and greenstone. The Upland soils that are formed over schist, granite, and gneiss are typically well drained while soils forming over greenstone have a distinct plastic clay layer. There are five soil groups that are found on Parcel 1D. Of these, Manor and Glenelg are the most predominant, followed by Meadowville, Worsham, and Mixed Alluvial (See Soils Map, page 12).

Approximately 75% of the parcel is comprised of Manor (21) and Glenelg (55) soils. These two soil groups have similar properties as they are derived from macaceous schist. Overlying soils tend to have

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a high mica content that is associated with a moderate to moderate-rapid permeability rating. As a result, they are well suited for septic drain fields and infiltration trenches. Also, these soils are considered to have good support for foundations of buildings up to three stories. Both soil groups are highly susceptible to erosion and tend to be difficult to compact. Additional engineering design may be required if this soil type is to be used as structural fill. The depth to bedrock ranges from 5 to 100 feet.

The next most frequently occurring soil group is Meadowville (20), which makes up approximately 24% of the site. Schist, granites, and alluvium underlie the soil. This group is found within the natural drainage ways, which accounts for its high water table that ranges from 2 to 4 feet below the surface. Foundation support may be marginal in the upper three feet of soil as soft alluvial soils become saturated. The suitability for septic drain fields and infiltration trenches is poor



even though the soil permeability is moderate. The erosion potential is low to moderate. The depth to bedrock ranges from 10 to 100 feet.

The remaining two soil types are Mixed Alluvial (1) and Worsham (8) which, when combined, are represented as less than one percent of the parcel. The Mixed Alluvial is found near the northern boundary in the vicinity of the Bullneck Run. The Worsham soil is found along the southwestern corner of the parcel. These soils are comprised of wet, soft alluvial sediments such as clays, silts and sand that are poor support for foundations. They remain mostly saturated by seasonal flooding and a high water table (0 to 2.5 feet for Mixed Alluvial and 0 to 0.5 feet for Worsham). This

makes them both poorly suited for infiltration trenches and septic drain fields. Mixed Alluvial soils are susceptible to stream bank erosion during seasonal flooding. Depth to bedrock ranges for Mixed Alluvial from 3 to 30 feet and 20 to 100 feet for Worsham. This information was taken from existing County records and should be used for planning purposes only. A detailed soils report, including field sampling, may be required prior to construction.

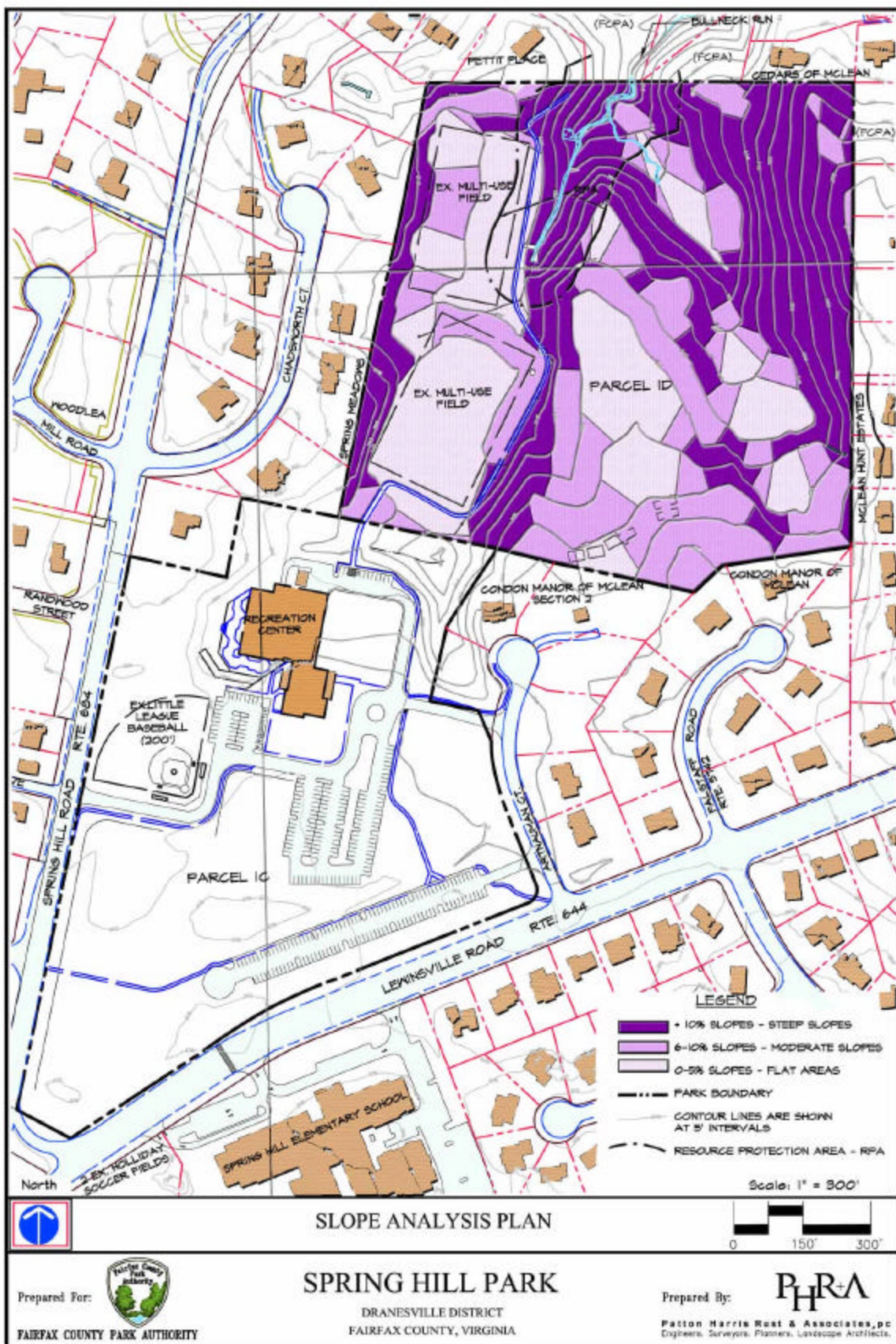
5. Topography

Parcel 1D is divided into two drainage ways by a relatively flat, rolling ridge that is characteristic of this geologic province. The high point on the parcel is elevation 372 +/- located on the top of the ridge along the southern boundary. The low point is elevation 300 +/- located in the Bullneck Run stream bed along the northern boundary. The flattest areas of the parcel are found on the two existing athletic fields, the top of the ridge, and the bottom of the natural drainage way on the eastern portion of the parcel. The steepest, natural slopes are found in the northeast portion of the parcel and along the periphery of the two drainage ways. Slopes in these areas generally range from 10 to 20 percent with some areas getting as steep as 30 percent. The grading that took place in the 1980's for the installation of the athletic fields created some adjacent slopes as steep as 50% in order to tie back into the existing grades (See Slopes Analysis Plan, page 14).

C. Zoning and Planned Land Use

The park is in the R-1 residential zoning district. Fairfax County parks are considered a public use which is permitted by-right in this zoning district. The County's Comprehensive Master Plan acknowledges Spring Hill Park as a District Park and provides further direction to "acquire additional land to expand outdoor recreation facilities." Should the park significantly change the existing public use, such as adding athletic field lights for evening play, approval of the Planning Commission under Section 15.2-2232 of the Code of Virginia would be required. This process would include a detailed review by County staff, a public hearing and Commis-

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sion approval. In accordance with the current landscape ordinance, a 35-foot transitional screening yard with a barrier is required along the periphery of the site where it abuts a residential use.

D. Vehicular Access, Traffic and Parking

Some of the most vocal concerns from the community and park stakeholders are related to the existing traffic and parking conditions in and around the park. To address these concerns, traffic and parking counts were performed during active outdoor athletic seasons in November 2002 and April 2003. The Transportation Analysis Executive Summary can be found in the appendix. The existing information was used to formulate recommendations (presented later in the report) for the park master plan revisions to, hopefully, correct the surrounding traffic and parking problems.



Today, vehicular access into the park occurs in two locations, from Artnauman Court and Spring Hill Road. Artnauman Court provides two entrances into the park: a primary, “ceremonial front door” entrance to the RECenter located at the end of Artnauman Court, and an entrance to a dead-end parking lot next to the intersection with Lewinsville Road. Artnauman Court is the primary entrance with approximately 60% of the vehicular traffic. Pedestrian access to the athletic fields on parcel 1D occurs periodically from drop-off vehicles on Chadsworth Court through the residential side yards.

The existing daily traffic volume for Lewinsville Road is 14,400 vehicle per day (vpd) during weekdays and 10,400 vpd during Saturday. The daily traffic volumes

for Spring Hill Road are 5,400 vpd during weekdays and 6,200 vpd during Saturdays. The Level of Service for the surrounding intersections are presently acceptable with a level “C” or better, with the exception of the Spring Hill Road/Lewinsville Road intersection with level “F” for weekdays and “D” for Saturdays.

Parking demands coincide with the intensity of the event at the park. The existing on-site maximum parking demand observed for a weekday was approximately 55% of the available spaces, (156 vehicles from 283 total existing spaces) and for a Saturday was approximately 87%. During the Saturday count, four of the seven existing fields were in use. It has been documented that parking demands for peak days has been over 100% capacity, resulting in designated parking on turf areas along parking lot travel ways and within the adjacent subdivision

streets. Park parking was observed to occur as close as possible to the attended event, including adjacent roads, even when parking was available in park parking lots. For instance, during a Little League game event participant parking was observed on Spring Hill Road even with available spaces within the parking lot.

The southern parking lot adjacent to Lewinsville Road is not connected with internal travel ways to the existing parking to the north. Without this connection, additional vehicle trips are created onto Artnauman Court to access this additional parking, or the user is inclined to park illegally within the park or in the public streets.

E. Trails

In accordance with the Countywide Trail Plan, asphalt bike trails are present along the park frontage on Lewinsville and Spring Hill Roads. Existing asphalt trails and sidewalks are also in place throughout the park to connect the RECenter to the existing parking lots and the surrounding public streets.

For parcel 1D, an asphalt trail is in place to provide a pedestrian connection to the two back athletic fields. This trail also serves as the parcel’s sole access for emergency vehicles. The asphalt trail extends the full length of the fields to the existing tree line, north of the fields. At this location, it changes to a dirt path that parallels the stream and continues

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north, off the parcel (See Countywide Trails Plan, page 16).

VII. Design Concerns

A. Access

Park access is important to control in order to minimize impact to the adjacent residences. Over the years, the park's primary vehicular entrance off of Artnauman Court has evolved from a long driveway to Lewinsville Road that served only the park to its existing condition today with direct access from the end of Artnauman Court, a public cul-de-sac street with seven residential lots. Closing this entrance will reduce existing traffic and parking problems on Artnauman Court created by the park. New access should be obtained directly from Lewinsville Road in a location agreeable to the County's Office of Transportation and VDOT. The new entrance should include signage to provide park identity.

Pedestrian access controls are also important to minimize the adjacent residential impacts. To discourage pedestrian access through residential side yards, fences may be installed along the property line in these areas.

B. Parking

Additional parking should be provided to address the current demands, scheduling patterns, and new facilities. Based on a parking analysis of the existing demands at Spring Hill Park and other like facilities, the following parking is recommended:

- RECenter – 177 spaces
- One full size field – 50 spaces
- One field less than full size – 35 spaces.

Parking should be provided within the park in close proximity to the users destination as much as possible. This will accommodate park users and perhaps discourage illegal on-site and off-site parking. Of particular concern is the present lack of parking near the two existing fields on parcel 1D. The vehicular circulation within the existing parking areas should be improved. Travel way connections should be made between the existing parking lots to provide better internal traffic flow. Parking should be oriented or adequately buffered/shielded to minimize impacts to adjacent residences.

C. Natural Resources

Designs concerns for the park's natural resources are only applicable to undeveloped portions of parcel 1D since the remainder of the park is developed. The up-

per reach of Bullneck Run, a perennial stream, is environmentally sensitive and should be preserved, along with the 100-foot buffer containing the RPA. The area adjacent to the RPA is also worthy of preservation. This area contains an intermittent stream and is forested. Areas with existing slopes greater than 10% (along the eastern boundary) should be preserved. The two champion trees located along the northern boundary should also be preserved. Development should be encouraged to occur on the flatter, high ground that is already cleared.

D. Buffering

Buffers should be provided along the periphery of the park that abuts adjacent residential uses to minimize impacts. At a minimum, and in conformance with current zoning requirements, a 35-foot wide transitional screening yard should be provided. A 50 to 100-foot wide buffer is more desirable. Within the buffers, grading should be minimized to save as much existing vegetation as possible.

E. Athletic Lights

Adding lights to an athletic field increases the hours of usage for the facility and the park's capacity to meet field demands. Due to the potential impacts to the surrounding residential areas and roads, extreme care is required when adding lights to a field. All issues related to lighting should be evaluated carefully. To reduce light spillage and glare onto the adjacent residences and roads, state-of-the-art athletic field lights should be used. Light use should



also be limited to no later than 11:00 PM as to not disrupt the adjacent neighborhoods. A Section 15.2-2232 of the Code of Virginia review process is required to add athletic field lights. This process includes a detailed review by county staff, a public hearing and Planning Commission approval.

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Lighting rectangular field #7 in the southwest corner of the property could be considered in order to maximize field use opportunity to meet a portion of the field deficiency previously cited. This location does meet general design principles for athletic field lighting such as park classification and buffering from adjacent existing housing. Park athletic field lighting has been installed in other communities in similar conditions. While this plan does not show lighted facilities, installation could be evaluated more fully as part of a future Master Planning process.

F. Storm Water Management

The existing stormwater management facility should be used as much as possible. Based on our preliminary review of the original design of the pond, the outlet controls may be modified to allow for additional volume needed to control the additional runoff. Improvements on parcel 1D will most likely require an additional facility. Additional treatment may be available through grass swales, rain gardens, infiltration trenches and other low impact development (LID) techniques and Best Management Practices (BMP). Should a traditional detention pond be proposed, careful design consideration should be used to keep the facility as unobtrusive and safe as possible by using flattened slopes and shallow ponding depths.



G. Trails

Trails and sidewalks are currently in place in accordance with the Countywide Trails Plan. Any new facilities constructed in the park should honor the existing trails and pedestrian patterns by preserving or relocating the trails and sidewalks as necessary. New trail connections to the adjacent residential areas should be carefully planned to minimize impacts to the residential areas.

VIII. Description of the Revised Master Plan

The proposed plan is a result of much effort from the Park Authority and the park stakeholders. As with any collaborative process, many of the parks purposes were accomplished but not all needs or desires could be met or accomplished. The proposed plan reflects careful evaluation by Park Authority to provide what best meets the objectives for the park, the community and the County.

The revised Master Plan (See Conceptual Development Plan, page 19) offers the following changes from the 1989 Master Plan:

- Conversion of a diamond field to a full sized rectangular field (field #7) on parcel 1C.
- The addition of 3 small rectangular fields (field #4, 5, and 6), which are currently utilized as microsoccer fields on parcel 1C.
- An additional diamond field (field #8) on parcel 1D.
- New vehicular access to diamond field (field #8), trail, parking area with 30 new parking spaces, and 3 picnic shelters on parcel 1D.
- A ten-acre preservation area on parcel 1D with an outdoor classroom, observation point, and natural surface trails.
- New park vehicular access from Lewinsville Road.
- The closure of the primary vehicular access from Artnauman Court.
- Conversion of second vehicular access point on Artnauman Court as an "Exit Only".
- An additional 256 parking spaces (a 90% parking increase).
- New internal vehicular circulation pattern to improve flow-through traffic.
- Parking area adjacent to the RECenter to be utilized for interim use.
- Removal of 4 tennis courts, 1 practice court, and 2 multi-use courts from plan on parcel 1C.
- Removal of tot lot, play apparatus, and shelter from plan on parcel 1C.
- The addition of the RPA limits for Bullneck Run on parcel 1D.

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A. Parcel 1C

1. Athletic Fields

Due to an increase in athletic field demand and additional parking, modifications are proposed to the parcel 1C athletic fields. The existing multi-sport field is replaced with a full size, rectangular field. Although lights are not included as part of the current proposed master plan, they could be considered as part of a future master planning process. This is the most favorable full sized rectangular field for lighting since it has the greatest separation to adjacent residences. It is closest to parking and the proposed park entrance. Lighting the trail to the back fields



would add to the park's operational and maintenance cost.

Additional changes to this area include a size reduction to mini-field #6 to accommodate the new full size field #7. Mini-field #5 has been shifted to make room for new parking.

2. Access

Significant vehicular access and parking improvements are proposed. The park's primary entrance is relocated from Artnauman Court to Lewinsville Road opposite the existing entrance to Spring Hill Elementary School. The intersection spacing of this new entrance between the Spring Hill Road and Artnauman Court intersections is good and meets road design criteria. A traffic signal may be warranted in the future based on the use of this entrance. A left turn lane is presently in place for the new entrance. There is adequate room in the right-of-way for a new right turn lane should one be required. Final transportation improvements should be coordinated

closely with the existing school entrances and the intersection with Spring Hill Road to the west.

The existing entrance from Artnauman Court should be removed and the area restored. The existing secondary entrance onto Artnauman Court near Lewinsville Road should be changed to an exit only to provide relief to the main entrance. If the exit only provision becomes difficult to enforce, the Park Authority may consider adding traffic management devices to the secondary exit.

3. Parking

To meet existing parking deficiencies and with the increase in use proposed by this plan, 256 new parking spaces are shown in addition to the 283 existing spaces, for an overall total of 532 spaces. This represents a 90% increase in parking for the park, provides adequate amounts of parking for the current demand and meets the parking criteria for the RECenter and fields described above. Parking expansion is a priority and substantial improvements to parking and access must occur prior to or concurrent to any new development on parcel 1D. Parking has been added in locations that are close to typical user's destination. A new, interim 64-space lot adjacent to the RECenter and a new 41-space lot in the location of the existing entrance will improve parking conditions for activities on parcel 1D. In the future, the expansion of the RECenter will displace interim parking. At that time, the parking should be relocated on parcel 1C adjacent to the primary parking lot area and displace a micro-soccer field such as field #5. A new 54-space lot is sited in the original location of field #5 to provide the RECenter and the Lit-



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the League field with nearby parking. This lot may be expanded southward in the future to replace the interim lot. The existing southern, dead-end parking lot along Lewinsville Road is connected to the other existing lot at three locations to improve the internal traffic flow. This changes the function of the existing cul-de-sac turn-around to a designated drop-off area for the adjacent athletic fields.

B. Parcel 1D

1. Baseball Field

The final location for the new baseball field is on the southern, central portion of parcel 1D. Baseball tends to have less year-round play than rectangular field sports thus creating less impact on adjacent preservation areas and residences than other active recreation fields. The field is planned as a 90-foot diamond field with a 310-foot outfield fence, suitable for Babe Ruth league play. It is sited as close as possible to the existing soccer field to reduce clearing, while maintaining the existing sloped bank. This location will allow a buffer of approximately 250 feet between the residential lots that back up to the park's eastern boundary and the field. The orientation of the field is optimum for minimizing sun disturbance to the players and distancing the infield and bleachers, from the adjacent residences. The siting in that location appears to allow for balancing the earthwork to build the field.

With the majority of the baseball field being a pervious surface, a new storm water management facility may not be warranted. If it is needed, a facility could be constructed behind center field in the natural swale. However, additional clearing of trees may be necessary. Grading slopes for a storm water management pond should be gentle to look as natural as possible. In lieu of a pond, innovative techniques are encouraged to minimize the disturbance to the natural areas. Possible alternatives to a pond are infiltration trenches and flat grassy swales (low impact development techniques).

2. Parking

Vehicular access to parcel 1D is via a new road from the existing park road behind the RECenter to a proposed 30-space parking lot. The proposed travel way uses the existing trail crossing of the drainage way with modifications for widening. The parking area is designed to accommodate a loop turn-around for drop-off traffic. Care should be given in the design of the travel lane to minimize excessive clearing and grading, but to also ensure the road is safe and not too steep. A trail runs parallel to the travel way to provide a pedestrian link to the area. Storm water runoff could be routed to the existing storm water management facility, or to a new possible pond mentioned above for the baseball field. Low impact development techniques are encouraged to minimize impacts.

3. Preservation Area

The remainder of the undeveloped area of parcel 1D will be preserved. Key components of this area are a nature walking trail, an outdoor classroom shelter and the preserved existing natural features. The looped nature trail will provide pedestrian access within the area and should be installed to minimize disturbance to trees and other natural features. Raised boardwalks and a pedestrian bridge may be needed to cross Bullneck Run and the wet areas. To maximize users' experiences, a trail route should be designed to take advantage of the site's natural features. A trail connection is shown to the Winter Hunt cul-de-sac through an additional parcel owned by the Park Authority. Due to the indirect route to the athletic fields on parcel 1D, it is not anticipated that this connection will result in drop offs for the playing fields. This connection should be monitored for future use and can be removed if necessary. The outdoor classroom shelter is centrally located within the preservation area. This facility should be designed to accommodate approximately 30 occupants from schools or other activity groups with a place to meet and learn about the County's natural resources.

C. Traffic

Traffic projections for the average daily trips in the year 2008 suggest that there will be a relatively small increase between 4% to 8% resulting from

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new uses of the proposed Master Plan facilities. Increased traffic volumes for the year 2008 weekday average daily trips on Spring Hill Road are estimated to be 6,300 vehicles per day (vpd) with the revised plan and 5,900 vpd without it. Comparable estimates for Lewinsville Road are 16,400 vpd and 15,800 vpd. For year 2008 Saturday average daily trips, Spring Hill Road is estimated to have 7,000 vpd with the revised plan and 6,700 vpd without it. Comparable estimates for Lewinsville Road are 12,400 vpd with, and 11,500 vpd without. In conclusion, the implementation of the revised Master Plan will not have a significant impact on average daily trips of the surrounding traffic.

Except for the Spring Hill Road/Lewinsville Road intersection for the weekday PM peak hour and the Saturday peak hour, the surrounding intersections will operate with acceptable Levels of Service ("C" or better) with the revised Master Plan in the year 2008. Today, the Spring Hill Road/Lewinsville Road intersection operates at an "F" level of service for the weekday PM hour and at a "D" for the Saturday peak hour. The weekday PM hour will

continue to operate as an "F" with or without the revised Master Plan for the year 2008. In 2008, the Saturday peak hour will continue to operate as a "D" without the revised Master Plan and as an "E" with the revised plan. As a mitigation measure for improving the Spring Hill Road/Lewinsville Road intersection, a separate left turn lane along eastbound Lewinsville Road and a separate right turn lane along southbound Spring Hill Road would restore the current Level of Service from "E" to "D" for Saturdays. Weekdays conditions would also improve, but would remain classified at the current "F" Level of Service. In conclusion, except for the relatively minor degradation from the existing Levels of Service with the weekday PM peak and the Saturday peak at the Spring Hill Road/Lewinsville Road intersection, the implementation of the revised Master Plan will not have a significant impact on the surrounding traffic. However, implementing mitigation measures will improve the Levels of Service for the Saturday peak hour.

